AFFILIATE

REPEATER JOURNAL

CAROLINAS – VIRGINIA REPEATER ASSN., INC.
ORGANIZED 1971

August 1976 Volume 5 No. 3

CVRA DISTRICTS RESTRUCTURE

On July 30, 1976, the CVRA Board of Directors, by mail vote, approved a re-structure of the Districts within the Association. Current structure includes nine Districts, served by an elected Director and Vice-Director from each. The nine Directors constitute the Frequency Coordinating Committee which is controlled by a Chairman appointed by the President.

The concept built around a large number of Directors has proven to be difficult to manage and to maintain a good flow of communications between Directors and the Officers. It has also proven difficult to have Board Meetings where a majority could attend.

After struggling with these problems for the past two years, and with the time being upon us in the Fall of this year to elect Directors again, it was felt that the time was right for a re-organization.

The new organization consists of three Districts - one made up of each state, North Carolina, South Carolina, and Virginia. The member repeaters in each state will elect a Director and a Vice Director this Fall, to serve for a two year term, effective January 1, 1977. Both Director and Vice Director must be a Representative of a member repeater in that state. A nominating committee in each state will be appointed by the President, consisting of three Repeater Representatives. The committee will nominate a candidate for Director and another for Vice Director from their state. The Secretary will mail these nominations to all repeater representatives by September 24. Additional nominations may be made for either post by acquiring the signatures of three Repeater Representatives and submitting the name to the Secretary before October 8. If more than one person is nominated for either Director or Vice-Director, ballots will be mailed in mid October to all repeater representatives in that state for a mail vote. Winners will be announced in the November issue of "The Repeater Journal". All member repeaters on role as of September 1, will be eligible to vote - each repeater receiving one vote.

After elections, the State Directors will divide their states into three districts each, and appoint an Assistant Director over each. The appointment will be for a one year term, renewable. The Assistant Director may be a Repeater Representative, or an Associate Member. This provides the opportunity for interested Associate Members to function in a key leadership role in the Association.

(cont'd on page 4)

The
REPEATER JOURNAL

Volume 5 No. 3

August 1976

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"THE REPEATER JOURNAL" is published four times each year on the first day of February, May, August, and November, for members of the CVRA. Permission is granted for quoting from "THE JOURNAL" provided credit line is given. The CVRA will swap newsletters with other repeater councils on request. "THE REPEATER JOURNAL" has a circulation of 1500 copies, and is entered as Second Class Mail at the Post Office in Burlington, NC 27215.

Now It's Crystal Clear

THE EXCITING

ICOM

IC-22S

Yes, now ICOM helps you steer clear of all the hassles of channel crystals. The new **IC-22S** is the same surprising radio you've come to know and love as the **IC-22A**, except that it is totally crystal independent. **Zero crystals.** Solid state engineering enables you to program 23 channels of your choice without waiting. Now the ICOM performance you've demanded comes with the convenience you've wanted, with your new **IC-22S**.

If you are as tired of fighting the battle of the quartz as most other hams are, you have just found your radio. The exciting IC-22S is a totally new radio in a familiar case style. In addition to the all new CMOS-LSI synthesizer used in the 22S, a new design has been implemented for the receiver. This new receiver employs 1st I.F. monolithic crystal filters and two 2nd. I.F. filters for improved rejection of 15 KHz adjacent channel signals.

The frequency synthesizer can be preset to any 15 KHz channel between 146 and 148 MHz by the diode matrix board. This frequency may be offset by 600 KHz higher or lower than the receiver frequency. To provide a low cost unit without sacrificing quality we have eliminated the readout and switching in favor of a customer programmed diode matrix using eight diodes to represent the frequency. A digital adder then provides the offset for the unit by adding 600 KHz to the frequency set by the diode matrix. Once the channel is set by the matrix the channel number is set in the window to operate the unit.

A unique front panel design allowing either a right hand or left hand view of the channel numbers and larger numbers on the dial make the 22S easier than ever to use.

Spurious attenuation of the 22S is far better than the FCC specification for even commercial type radios.

Modulation band-width is controlled by the IDC type circuit and the response of the audio filter to the modulator. HI-Q tuned circuits in frequency generators assure the minimum of unwanted signals.

You get great intermod attenuation because the receiver front end is a balance of low noise, high gain MOS FET and the 5 section helicalized resonator type front-end-filter which determines the receiver front and bandpass.

This means low intermodulation by out of band signals. Excellent sensitivity and adjacent channel rejection are achieved through a crystal 10.7 MHz filter in the first I.F. and the dual filter in the 455 KHz second I.F. section.

Power output of the 22S is 10 Watts nominal with a one watt low power position. The 10W level is ideal for driving the auxilliary high power amplifiers now on the market.

SPECIFICATIONS FOR IC-22S

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SEMICONDUCTOR COMPLEMENT:		
	TRANSISTORS	34
	FET	7
	IC	13
	DIODES	33 to 128 depending on channels
FREQUENCY RANGE (For Specification)		146-148 MHz
VOLTAGE		13.8 VDC NEGATIVE GROUND
CURRENT REQUIRED	TX	2 AMP @ 10 W 0.9A at 1 W
	RX	700 MA AT MAX AUDIO 400 MA SQUELCHED
SIZE		58 MM (H) x 156 MM (W) x 218 MM (D)
WEIGHT		1.9 KILOGRAMS
ANTENNA IMPEDENCE		50 OHMS
NUMBER OF CHANNELS		23 Channels selected from any of the 132 Channels on 15 KHz spacing
FREQUENCY CONTROL		Stabilized Master oscillator PLL programmed by diode matrix
TRANSMITTER:		
POWER OUT		10 WATTS or 1 WATT, Selectable
MODULATION WIDTH		5 KHz
MICROPHONE IMPEDENCE		500 OHMS
SPURIOUS LEVEL		LOWER THAN - 60DB Below carrier
RECEIVER:		
MODULATION ACCEPTANCE		16F3
TYPE		DOUBLE SUPERHET, 1st I.F. 10.7 MHz, 2nd I.F. 455 KHz
RECEIVER SENSITIVITY		4 DB BELOW 1 UV OR LOWER (.4 micro V)
1 Microvolt S+N/N		30 DB OR BETTER S+N/N
SPURIOUS RESPONSE		60 DB OR MORE ATTENUATION
BANDPASS		+/-7.5 KHz/-6DB,+/-15 KHz/-60 DB
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CVRA DISTRICTS RESTRUCTURE (cont'd from page 1)

The Assistant Directors will serve as the Coordinators of CVRA activities within their districts and insure that all repeater related activities are reported to the Director and Vice Director. They will serve in a "front line" PR role for the Association.

The Director is the primary representative of the Association within his state. He maintains contact with all Repeater Representatives in his state through the Assistant Directors, and actively solicites leads on individuals and clubs interested in installing a repeater. He maintains contact also with repeaters who may not be members of the Association to minimize conflicts which may arise. He maintains contact with other Directors in the States adjoining his, and also with representatives of other repeater associations or repeaters that are not in the three states of CVRA. The Director is a member of the Association's Frequency Coordinating Committee, which is headed by a Chairman appointed by the President. The Director advises the Chairman of potential problem areas regarding frequency recommendations. He must therefore be fully knowledgeable of the coverage areas of repeaters in his state and of their future plans. He attends meetings of the Board of Directors and serves as the "sounding board" for ideas and problems concerning repeaters and VHF/UHF interests in his state. He actively solicites repeater groups to join the CVRA and encourages both owners and users to cooperate with the Association in providing a unified voice for the CVRA area. The Director keeps the Newsletter Editor supplied with information from his state so as to keep all levels of the membership informed of activities within.

The Vice Director maintains close contact with the Director concerning matters of repeater memberships and actively solicites Association memberships, both repeater and Associate. He works with the Repeater Membership Chairman and Associate Membership Chairman to frequently review the status of memberships in his state. He serves as the liason with the ARRL Section Emergency Coordinator (SEC) for his state, to provide the contact needed to successfully achieve a close working relationship between the repeater owners and the emergency arm of ARRL.

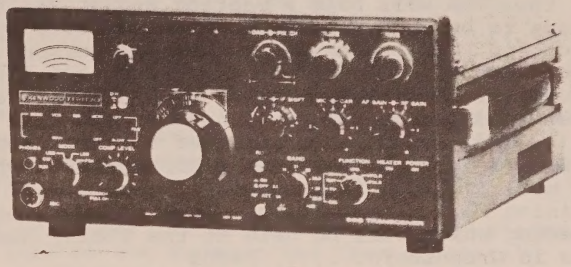
As you can see, the jobs of Director and Vice Director are time consuming and are not to be taken lightly. They require good people who are respected by their peers and are accustomed to operating without close guidance and specific assignments. These elections cannot be "popularity contests", as we need to have leaders in these jobs. Your state will suffer, without a good Director and Vice Director. Please review potential candidates closely, and be sure to find out if they really do want to be candidates before nominating them. We look forward to having good elections this Fall and running into '77 with a "full head of steam".

BOARD OF DIRECTORS MEETING Saturday 7 PM September 4, 1976 Shelby, NC

There will be a meeting of the Board of Directors of CVRA at 7 PM on Saturday, September 4, 1976, at a "yet to be established point". An attempt will be made to obtain a meeting room at either the Holiday Inn or Governors Inn, if not the meeting will be at the Hamfest site. A notice will be mailed to all Directors and Vice Directors at least one week prior to the Hamfest specifying the site. All CVRA Members are invited to attend as observers. Look forward to seeing you there. Site location will also be announced on the Shelby Repeaters during the Hamfest weekend.

SHELBY'S HAMFEST

20th YEAR
2-DAY
Celebration!
SEPT. 4-5



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Hamfest Site: **CEDAR PARK, OFF HWY. 10, N. OF POLKVILLE**

Talk In On 146.28-88
146.52-52

FCC Examiner available, to give open test at Law Enforcement Center, Downtown Shelby, Saturday at 8:30, no cash accepted, bring checks or money order. No one accepted after 8:30 a. m.

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PIEDMONT DISTRICT REPORT

Director:	Wayne Williams, K4MOB	Rt 1 Box 806	Colfax, NC 27235
Vice Dir:	John Huffman, W4IRE	2400 Hoyt St.	Winston-Salem, NC 27103

(ATTENTION ALL PIEDMONT DISTRICT REPEATER REPS) ..... The Piedmont District of the CVRA will hold a meeting August 21, Saturday at Noon in Greensboro. Place to be announced as the meeting time approaches. All repeater owners, trustees, CVRA Representatives, and persons considering setting up a repeater are urged to attend. The CVRA FCC Liason Representative, members of the CVRA Technical Committee, and the CVRA Officers are expected to be present. The last Piedmont meeting was an excellent time for everyone to get acquainted, talk shop, and discuss repeater troubles and problems. PLEASE MAKE EVERY EFFORT TO HAVE YOUR REPEATER REPRESENTED, whether you are a member of CVRA or not. Talk in frequencies if needed will be 16/76 and 72/12. Plan on joining for a light lunch. Your input is needed for the upcoming Directors meeting which will be held at the Shelby Hamfest. I look forward to seeing you in Greensboro..... K4MOB

(GREENSBORO, NC) .... A group of about 20 amateurs who do considerable traveling for a living are reportedly forming an association to put an Auto-Patch repeater on in Greensboro. The machine, the 5th for Greensboro on two meters, will be a wide coverage repeater, with expected 50 miles or more mobile access. A spokesman for the group said the machine will be on 24 hours a day, 7 days a week, full autopatch capability, and other useful features. Described as a utility repeater, teletype, slo-scan TV and experimentation will be permitted. The repeater group plans to join CVRA and were recommended the frequency of 90/30. License application will be filed in early August... ..... K4SNI

(WINSTON-SALEM, NC) .... The 04/64 repeater now has its new call, WR4ARD, with its new Trustee, William "Con" Conrad, K4BE. The machine is maintained by the Forsyth County Amateur Radio Emergency Services (FCARES). WR4ARD, formerly WR4ACA, operates 24 hours a day, 7 days a week. Autopatch facilities are always available for the Winston-Salem calling area. "Con" says the machine still gives excellent coverage to Winston-Salem and Forsyth County and is ready with emergency power in time of need. A handy 4 page users Bulletin has been printed for convienience to new hams in the area utilizing the machine..... K4BE.

(LENOIR, NC) .... The 93/33 repeater in Lenoir was put back into operation atop Hibriten Mountain on July 10th. The group just receiving their new repeater call, WR4ARG, waited for 10 months for word from the FCC. The Motorola 140D transmitter is loafing presently at 15 watts. A new VHF Engineering solid state repeater is nearing completion and will be housed in the same cabinet with the Motorola machine for back-up..... K4HTV

(STATESVILLE, NC) ..... Reports from the Statesville area are that interest is growing, as a group is being formed to put a repeater on the air in that area. Don, K4PAJ, reports a club is being formed, and Novice classes are being conducted. A newsletter is in the making. Six students are waiting for the start of a second Novice Class. Some 12 hams are lending support to get the repeater going in the near future. The CVRA coordinated 01/61 for the machine..... K4PAJ

(MORGANTON, NC) .... The 75/15 repeater in Morganton, after 11 months, received their permanent call, WR4AQI. The repeater is providing excellent coverage across Burke and surrounding counties with 35 to 45 mile mobile coverage. The repeater fills a vital mobile link in that area..... WB4UDS

PIEDMONT DISTRICT REPORT (continued)

(BOONE, NC) .... WB4DYD, W4MBN and WB4KDB are finalizing the details for the 147.96/147.36 machine to be located on Rich Mountain at Boone. Elevation will be 4800' above MSL and 1400' HAAT. The equipment is Motorola Sensicon and will include a RF Technology duplexer kit. An autopatch is planned. The repeater should be on the air before Labor Day if no more problems are encountered. WB4KDB is license Trustee..... tnx WB4DYD

(GREENSBORO, NC) .... Application has been filed for the 63/03 repeater for Greensboro. Final agreements are being worked out for a permanent site for the machine, within the city limits of the city. The new repeater, a 4th for Greensboro will bring auto-patch facilities to the city, the first machine to have that capability. No date available yet as to when it will be operational..... tnx WB4CFK

(GREENSBORO, NC) .... The 72/12 Greensboro repeater has undergone a total overhaul. The 2 meter and 450 link of the machine has been completely rebuilt, and each housed in new cabinetry. The transmitter site, now operating with 400 watts ERP is using a Hi-Gain J-Pole, with the receive site using a Phelps-Dodge Stationmaster. Input coverage to the west near Winston-Salem has been improved considerably. ..... tnx K4MOB

(GREENSBORO, NC) .... The Piedmont Amateur Radio Society is sponsoring their next in a series of transmitter hunts on August 22 beginning at 1400. This will be their fifth hunt conducted over the past yaer. The upcoming event will have two diferrent classes of winners, one for the more experienced (advanced) hunters, and one for the beginners who are just learning the art of transmitter hunting. The hunt will conclude with a pool party and weiner roast. All PARS members and friends are invited to participate..... tnx K4MOB, W4CS, K4DQ.

CENTRAL DISTRICT REPORT

Director:	Bill Brydges, K4WHQ	904 E. Main St.	Shelby, NC 28150
Vice Dir:	Ken Dresser, WB4NDB	Rt 11 Box 179T	Charlotte, NC 28213

(SHELBY, NC) .... WR4ABT/4, 147.84/147.24, has begun testing from its split site location near Shelby. Rusty Elliott, WB4RYB, and Lee Harris, are the owners. WR4ABT/4 is a temporary call until the permanent license arrives. Autopatch plans are being prepared. The repeater is expected to be in regular service by late August and will be used as "talk-in" for the Shelby Hamfest along with the regular 28/88 Shelby machine.

(CHARLOTTE, NC) .... It has been learned that the FCC will be conducting exams in Charlotte in January 1977. Exact time and place has not been established.

(FOREST CITY, NC) .... WR4AHA, 07/67, has had to go to tone access due to random noise being generated by a local manufacturing plant's dryer keying up the machine routinely. A 2400 Hz tone burst is required to bring the machine up..... tnx WA4BKU

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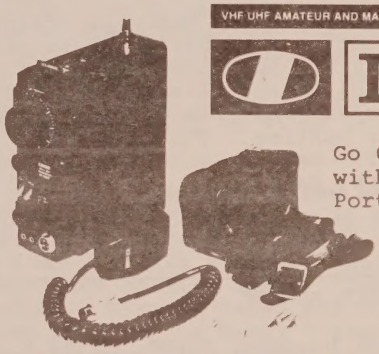

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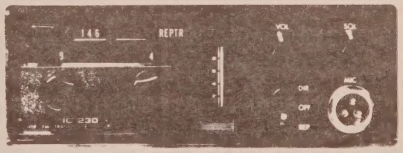

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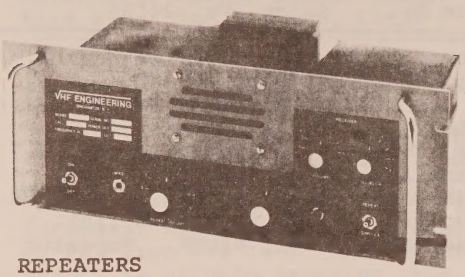

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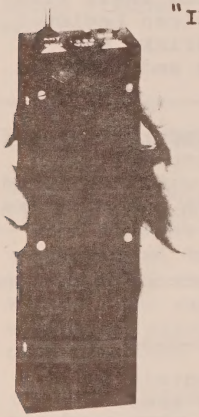
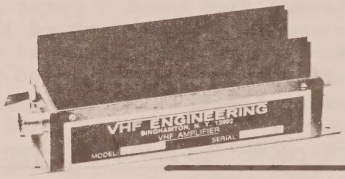


2 METER AMPLIFIERS



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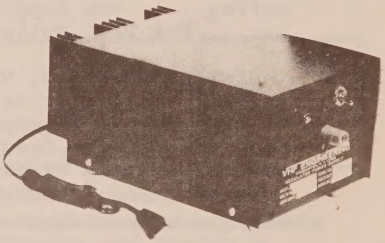

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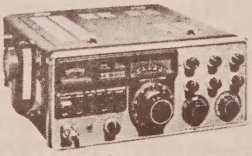

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MOUNTAIN DISTRICT REPORT

Director:	Hank Holcomb, WB4MOV	513 Atlanta Ave.	Lynchburg, Va. 24502
Vice Dir:	Al Dyson, W4PDL	1848 Skycoe Dr.	Salem, Va. 24153

(ROANOKE, VA) .... Newest member of CVRA from the Mountain District is the Roanoke Valley Amateur Radio Club, sponsor of WR4AFY, 146.38/146.98. WR4AFY provides good mobile coverage to the counties of Roanoke, Henry, Montgomery, Bedford, and Pittsylvania from its site atop Poor Mountain, 15 miles southwest of Roanoke at the WDBJ-TV, Channel 7, site, with an HAAT of 1794' and 3786' above MSL. The Motorola Sensicon repeater feeds 30 watts through a 6 cavity duplexer to a 6dB gain antenna. This is an open, carrier access repeater. ID is via CW and control is via 450 radio link. CVRA Representatives are Sam Kent, K4CEK, and Bob Andrews, K4UMK. Repeater Trustee is Thomas W. Lamous.

(LYNCHBURG, VA) .... The Lynchburg Amateur Radio Club will hold their first annual LARC picnic on August 14, starting at 4 PM at the American Legion Lake & Pavillion on Greenview Drive. LARC will supply soft drinks and coffee..... you supply enough food for your family and plates and utensils... ..... tnx LARC Bulletin.

(WHITETOP MOUNTAIN, VA) .... Eddie Palmer, K4LSP, has announced that he will install a repeater on 146.01/146.61 and 52.01/53.01 on Whitetop Mountain as soon as the license arrives. The 2 and 6 meter repeaters will be linked together. These frequencies were not coordinated through CVRA and problems are foreseen on 01/61 as the Lynchburg repeater is operating on that frequency and Statesville, NC has been coordinated by CVRA for it also.

LATE NEWS FROM THE FREQUENCY COORDINATING COMMITTEE..... WA4WTX

(KINGS MOUNTAIN, NC) ..... Roy Hollaway, WB4GXY, in Kings Mountain is requesting a frequency pair for a potential repeater for this area. No recommendation has yet been made.

(GASTONIA, NC) .... Bill Cook, W4REW, has requested to place a repeater on 147.72/147.12 from the WBTV, Channel 3, site atop Spencer Mountain. CVRA authorization has been given provided a null pattern toward Greensboro is provided.

(MARION, NC) .... Bill Poole, K4JCK, has requested a frequency pair for a proposed Marion repeater. 147.72/147.12 was requested, but CVRA had just approved it for Gastonia. Looks like 146.10/146.70 might be a possibility.

(SANFORD, NC) .... K4AFT is interested in a repeater here. No plans have been made.

(GREENWOOD, SC) .... The Piedmont Tech Amateur Radio Club will be placing a repeater here on 147.75/147.15. Barry Bridges, WA4DZG coordinated the frequency with CVRA.

(PETERSBURG, VA) .... Jackie McPherson, WA4MRJ, has requested that CVRA approve a repeater for the Petersburg area on 147.99/147.39.

NORTHERN DISTRICT REPORT

Director:	Carter Cogle, K4ARO	1667 Varina Ave.	Petersburg, Va. 23803
Vice Dir:	Tom Gimbert, K4PQD	Rt 1 Box 18	Rixeyville, Va. 22737

(FARMVILLE, VA) .... A split site machine on 146.31/146.91 will soon be operational from Farmville.

(BERRYVILLE, VA) ..... Carroll Mason, WB4NER, owns and operates WR4APE on 147.90/147.30, in Berryville, near Winchester. WR4APE is the newest CVRA member repeater in the Northern district..... welcome to CVRA. The Motorola machine gives good coverage to the areas around Winchester, Front Royal, Manassas, Washington, DC, Frederick, Md, Hagerstown, Md., and Martinsburg, W. Va, from its 1000' HAAT location. Output power is 70 watts ERP. WR4APE is an open repeater, but requires a 146.2 Hz continuous tone to activate and hold the machine. Control is via radio and an autopatch is being planned. CVRA representatives are Fred Whetzel, W4KRT, and Lee Marshall, W4JK.

WESTERN DISTRICT REPORT

Director:	Wade Holland, W4AZT	Rt 9 Hillandale Cir.	Greenville, SC 29609
Vice Dir:	Ralph Roberts, WA4NUO	Rt 1 Box 284	Alexander, NC 28701

(GREENVILLE, SC) ... Wade Holland, W4AZT, has accepted the appointment as Director of the Western District to fill the unexpired term of Henry Roberts, WB4ROI, who re-signed. Wade is well known in South Carolina and brings a wealth of experience in serving in leadership roles in Amateur Radio organizations to the CVRA. Welcome aboard Wade.....

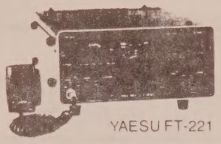
(GREATER GREENVILLE, SC) .... The SLOT net (Sand-Lappers On Two SSB Net) has been very active for the past month. Listen on 145.025 at 2215 on Monday, Wednesday and Friday. The purpose of the SLOT Net is to promote and encourage the use of SSB on 2 meters for DX and roundtables. CW check-ins are welcome. Initial net members are WA4CUV, WB4EFZ, WB4IXU, K4LNU, WA4MVI, WA4MVS, K4TXV, and WA4LUQ..... tnx WB4EFZ.

(GREENVILLE, SC) .... Tom Norman, WA4AIV, formerly owner of the Laurinburg, NC, repeater has now moved to Greenville and is planning on setting up a machine on 146.10/146.70. No specific plans have been made at this time.

BAY DISTRICT REPORT

Director:	Bill Shaw, WA4MMP	2216 Dunbarton Dr.	Chesapeake, Va 23325
Vice Dir:	Joe Stevens, WA4JZX	704 W. Main St.	Elizabeth City, NC 27909

(CHESAPEAKE, VA) .... WA4MMP, Bill Shaw, Director of the Bay District has been transferred to the West Coast, and as a result, has had to resign as Director. Bill's fine efforts in the Chesapeake area will be missed by us all. We are all sorry to see MMP disappear from the local VHF scene but we wish him all the luck in the world.... again thanks Bill.....



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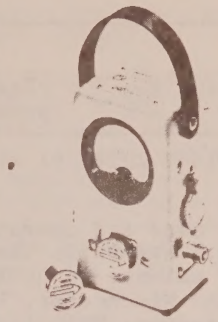

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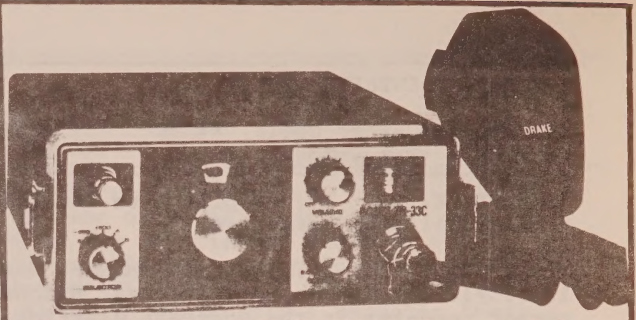

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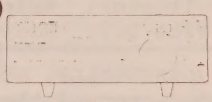

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DISTRIBUTION OF TWO METER REPEATERS

	NORTH CAROLINA	SOUTH CAROLINA	VIRGINIA
01 /61	STATESVILLE	GREENVILLE,MYRTLE BCH	LYNCHBURG
025/625			NEW MARKET
04 /64	ASHEVILLE, RALEIGH		RICHMOND
	WINSTON-SALEM		
055/655			ALEXANDRIA
07 /67	BURLINGTON, FOREST CITY		BARREN SPRINGS
	LAURINBURG		
10 /70	GREENVILLE(TN)	LANCASTER, SUMTER	DANVILLE, RICHMOND
			PORTSMOUTH
13 /73	SALISBURY	NO. AUGUSTA	HAMPTON, ROANOKE
145/745	KINGSPORT(TN)		
16 /76	GRIFTON, GREENSBORO	CHARLESTON, COLUMBIA	LYNCHBURG
	ASHEVILLE		
19 /79	HIGH PT, JOHNSON CTY(TN)	LAVONIA(GA)	CHESAPEAKE, FAIRFAX
22 /82	ASHVILLE,DURHAM,CHARLOTTE	GREENVILLE	WINCHESTER, ARLINGTON
	WILMINGTON, ROARING GAP		
235/835		COLUMBIA(147.255 IN)	
25 /85	HICKORY, REIDSVILLE	LAURENS	
	SEVEN SPRINGS		
28 /88	RALEIGH, SHELBY	COLUMBIA, SAVANNAH(GA)	BRISTOL, ROANOKE
	BRISTOL(TN)		RICHMOND
31 /91	FAYETTEVILLE, LEXINGTON	WHITE HALL	TYSONS CORNER,FARMVILLE
	MURFREESBORO, ASHEVILLE		
34 /94	AURORA, BEULAVILLE	CHARLESTON, COLUMBIA	HAMPTON, ROANOKE
	CHARLOTTE, DURHAM, MANTEO	GREENVILLE,AUGUSTA(GA)	RICHMOND
37 /97	MT. AIRY	ANDERSON, FLORENCE	ROANOKE(38/98), BULL RUN
			STAUNTON, VIRGINIA BEACH
40 /00	HIGH POINT, JACKSONVILLE	PICKENS	SUFFOLK, CHARLOTTESVILLE
43 /03	IRWIN, GREENSBORO(63 IN)	ROCK HILL	RICHMOND, BLACKSBURG
46 /06	CHARLOTTE,ELIZABETH CITY		
69 /09	GREENVILLE	ORANGEBURG	GALAX
72 /12	GREENSBORO, ROCKY MOUNT		WARRENTON
	GASTONIA		
75 /15	DURHAM, MORGANTON	GREENWOOD	
78 /18	BURLINGTON, CHARLOTTE		
81 /21	LAKE TOXAWAY, GREENSBORO		MC LEAN
	LUMBERTON		
84 /24	FRANKLIN, SHELBY		WOODBRIDGE, SOUTH HILL
87 /27	WINSTON-SALEM, BENSON	CLEMSON	
90 /30	CHARLOTE(24/90)		PETERSBURG, BERRYVILLE
	GREENSBORO		
93 /33	LENOIR, FAYETTEVILLE	AUGUSTA(GA)	LEXINGTON
96 /36	ROANOKE RAPIDS, BOONE	COLUMBIA	WASHINGTON(DC)
99 /39	CHARLOTTE		

Virginia

ALEXANDRIA	WR4	146.055	146.655	U
ARLINGTON	WR4	146.22	146.82	U
BARREN SPRNGS	WR4AFQ	146.07	146.67	
BERRYVILLE	WR4APE	147.90	147.30	C L
BLACKSBURG	WR4	146.43	147.03	U
BRISTOL	WR4AFZ	146.28	146.88	
BULL RUN	WR4ADZ	146.37	146.97	T
CHARLOTESVILE	WR4ADV	146.40	147.00	O
CHESAPEAKE	WR4ACN	146.19	146.79	CA
DANVILLE	WR4AHG	146.10	146.70	
FAIRFAX	WR4AAD	146.19	146.79	
FARMVILLE	WR4	146.31	146.91	U
GALAX	WR4AHR	147.69	147.09	C
HAMPTON	WR4ALW	146.13	146.73	
HAMPTON	WR4AFT	146.34	146.94	T
LEXINGTON	WR4ABU	147.93	147.33	
LYNCHBURG	WR4ADY	146.01	146.61	C
LYNCHBURG	WR4AEN	146.16	146.76	
MC LEAN	WR4	147.81	147.21	U
NEW MARKET	WR4	146.025	146.625	P
PETERSBURG	WR4	147.90	146.30	P
PORTSMOUTH	WR4ANT	146.10	146.70	C U
RICHMOND	WR4ADI	14[illegible]	146.94	T
RICHMOND	WR4ACW	146.28	146.88	CAT
RICHMOND	*WR4ACW	146.43	147.03	C P
RICHMOND	WR4	146.10	146.70	RP
RICHMOND	WR4	146.04	146.64	P
ROANOKE	WR4AMQ	146.13	146.73	
ROANOKE	WR4AFE	146.28	146.88	C
ROANOKE	WR4AFY	146.38	146.98	C
ROANOKE	WR4AHT	146.34	146.94	
SOUTH HILL	WR4APF	147.84	147.24	
STAUNTON	WR4ACL	146.37	146.97	C
SUFFOLK	WR4AKS	146.40	147.00	CA
TYSON'S CORNR	WR4ABR	146.31	146.91	
VIRGINIA BCH	WR4AAC	146.37	146.97	CA
WARRENTON	WR4	147.72	147.12	P
WASHINGTON(DC)	WR3	147.96	147.36	U
WINCHESTER	WR4AGT	146.22	146.82	C
WOODBRIDGE	WR4AII	147.84	147.24	

ALEXANDRIA	WR4ANC	442.05	447.05	
ALEXANDRIA	WR4AAG	439.25	427.25	V
CHESAPEAKE	WR4ACN	449.95	444.95	C P
FT. BELVOIR	WR4AJT	444.125	449.125	
PARIS	WR4ANJ	444.80	449.80	
RICHMOND	WR4	444.50	449.50	
ROANOKE	WR4AHT	447.75	443.75	U
TYSONS CORNER	WR4ABR	444.75	449.75	

LEXINGTON	WR4ABU	52.01	53.01	P
NORFOLK	WR4			P

TYSONS CORNER	WR4AEY	222.34	223.94
WOODBRIDGE	WR4AIJ	223.22	224.82 P

146 MHZ BAND

GENERAL

146.00 - 146.46 Repeater Inputs
146.49 - 146.58 Simplex
146.61 - 147.06 Repeater Outputs
147.09 - 147.39 Repeater Outputs
147.42 - 147.66 Simplex
147.69 - 147.99 Repeater Inputs

All channel spacing is 30 kHz

REPEATER CHANNELS (27)

Input	Output	Input	Output
146.01	146.61	147.69	147.09
146.04	146.64	147.72	147.12
146.07	146.67	147.75	147.15
146.10	146.70	147.78	147.18
146.13	146.73	147.81	147.21
146.16	146.76	147.84	147.24
146.19	146.79	147.87	147.27
146.22	146.82	147.90	147.30
146.25	146.85	147.93	147.33
146.28	146.88	147.96	147.36
146.31	146.91	147.99	147.39
146.34	146.94		
146.37	146.97		
146.40	147.00		
146.43	147.03		
146.46	147.06		

SIMPLEX CHANNELS (13)

146.49 DX	147.42	147.57
146.52 NCF	147.45	147.60
146.55	147.48	147.63
146.58	147.51	147.66
	147.54	

SIMPLEX CHANNELS IN 145 MHZ REGION

Here are 28 channels available for simplex activity which just about all rigs will cover. Avoid operating between 145.85 - 145.975 as this portion is being used for satellite Communications.

145.02	145.23	145.44	145.65
145.05	145.26	145.47	145.68
145.08	145.29	145.50	145.71
145.11	145.32	145.53	145.74
145.14	145.35	145.56	145.77
145.17	145.38	145.59	145.80
145.20	145.41	145.62	145.83

C	CVRA MEMBER	U	UNDER CONSTRUCTION
A	AUTOPATCH	P	PROPOSED
T	TONE ACCESS	O	OFF AIR TEMPORARILY
#	TEMPORARY CALL	V	TELEVISION
*	ALTERNATE FREQUENCY		
R	RTTY ONLY		
L	PL (CONTINUOUS TONE RQD)		

North Carolina

ASHEVILLE	WR4ALC	146.04	146.64	
ASHEVILLE	WR4AEV	146.16	146.76	C
ASHEVILLE	WR4AGF	146.22	146.82	O
ASHEVILLE	WR4ANY	146.31	146.91	
AURORA	WR4ABQ	146.34	146.94	C
BENSON *	WR4AOE	147.87	147.27	C
BEULAVILLE	WR4ADS	146.34	146.94	C
BOONE	WR4	147.96	147.36	U
BURLINGTON	WR4AKY	146.07	146.67	C
BURLINGTON	WR4AIF	147.78	147.18	U
CHARLOTTE	WR4ABT	146.22	146.82	O
CHARLOTTE	WR4AEU	146.34	146.94	CA
CHARLOTTE	WR4	147.99	147.39	C P
CHARLOTTE	WR4ALO	146.46	147.06	CA
CHARLOTTE	WR4ABK	147.78	147.18	C
CHARLOTTE	WR4AJX	147.24	147.90	
DURHAM	WR4AJY	146.34	146.94	AT
DURHAM	WR4AJV	147.75	147.15	
DURHAM	WR4AGC	146.22	146.82	CA
ELIZABETH CTY	WR4ADN	146.46	147.06	CAT
FAYETTEVILLE	WR4ANN	146.31	146.91	CA
FAYETTEVILLE	WR4ADK	147.93	147.33	C U
FOREST CITY	WR4AHA	146.07	146.67	C T
FRANKLIN	WR4ALD	147.84	147.24	U
GREENSBORO	WR4AOD	146.16	146.76	C
GREENSBORO	WR4ANP	147.72	147.12	C
GREENSBORO	WR4ANL	147.81	147.21	
GREENSBORO	WR4	147.63	147.03	AU
GREENSBORO	WR4	147.90	147.30	AP
GREENVILLE	WR4AMB	147.69	147.09	CA
GRIFTON	WR4ABP	146.16	146.76	C
HICKORY	WR4ACM	146.25	146.85	C
HIGH POINT	WR4AFV	146.19	146.79	C
HIGH POINT	WR4ADT	146.40	147.00	CA
IRWIN	WR4ALY	146.43	146.43	U
JACKSONVILLE	WR4AJG	146.40	147.00	C
LAKE TOXAWAY	WR4AGH	147.81	147.21	P
LAURINBURG	WR4AOX	146.07	146.67	C
LENOIR	WR4ARG	147.93	147.33	C
LEXINGTON	WR4ABX	146.31	146.91	CA
LUMBERTON	WR4	147.81	147.21	U
MANTEO	WR4AKB	146.34	146.94	C
MORGANTON	WR4AQI	147.75	147.15	C
MT. AIRY	WR4ACJ	146.37	146.97	C
MURFREESBORO	WR4AFB	146.31	146.91	CA
RALEIGH	WR4ACF	146.04	146.64	C
RALEIGH	WR4AOE	146.28	146.88	CA
REIDSVILLE	WR4ADE	146.25	146.85	C
ROANOKE RAPDS	WR4	147.96	147.36	P
ROARING GAP	WR4AGS	146.22	146.82	C
ROCKY MOUNT	WR4	147.72	147.12	C U
SALISBURY	WR4AAA	146.13	146.73	CA
SEVEN SPRNGS	WR4AEF	146.25	146.85	C
SHELBY	WR4ABF	146.28	146.88	C
SHELBY *	WR4ABT	147.84	147.24	U
STATESVILLE	WR4	146.01	146.61	C U
WILMINGTON	WR4AHL	146.22	146.82	C
WINSTON-SALEM	WR4ARD	146.04	146.64	CA
WINSTON-SALEM	WR4	147.87	147.27	U

ASHEVILLE	WR4ALC	52.01	53.99	U
DURHAM	WR4AGC	52.15	53.15	C
HICKORY	WR4ACM	52.78	52.525	C
MOCKSVILLE	WR4AJD	52.76	52.525	U

ASHEVILLE	WR4AKR	222.34	223.94	C
DURHAM	WR4AGC	222.34	223.94	C
DURHAM	WR4	223.22	224.82	U
RALEIGH	WR4	223.34	224.94	U

ASHEVILLE	WR4ALE	449.90	445.90	C U
CHARLOTTE	WR4AEI	450 PRIVATE		
DURHAM	WR4AGC	449.10	444.10	CA
HIGH POINT	WR4ADT	447.90	442.90	
MOYOCK	WR4			P
WINSTON-SALEM	WR4AOW	448.00	443.00	U

South Carolina

ANDERSON	WR4AIO	146.37	146.97	C
CHARLESTON	AF4AFX	146.16	146.76	
CHARLESTON	WR4AFX	146.34	146.94	C T
CLEMSON	WR4	147.87	147.27	P
COLUMBIA	WR4ACD	147.96	147.36	CA
COLUMBIA	WR4ACD	146.34	146.94	C T
COLUMBIA	WR4ABA	146.28	146.88	C
COLUMBIA *	WR4ACD	146.16	146.76	C
COLUMBIA	WR4	147.255	146.835	
FLORENCE	WR4AGM	146.37	146.97	C
GREENVILLE	WR4ADG	146.01	146.61	
GREENVILLE	WR4ABG	146.34	146.94	C T
GREENVILLE	WR4AHJ	146.22	146.82	CA
GREENWOOD	WR4	147.75	147.15	U
LANCASTER	WR4ABM	146.10	146.70	
LAURENS	WR4	146.25	146.85	U
MYRTLE BEACH	WR4	146.01	146.61	P
NORTH AUGUSTA	WR4ABB	146.13	146.73	C
ORANGEBURG	WR4AQY	147.69	147.09	C
PICKENS	WR4ADP	146.40	147.00	C
ROCK HILL	WR4AJO	146.43	147.03	C
SUMTER	WR4AOI	146.10	146.70	C
WHITE HALL	WR4AQL	146.31	146.91	C

CHARLESTON	WR4AFX	449.10	444.10	C U

COLUMBIA	WR4	52.05	53.05	U

SOUTHERN DISTRICT REPORT

Director:	Hugh Minton, K4FR	44 Longwood Dr.	Aiken, SC 29801
Vice Dir:	Cliff Semken, K4OKD	436 Wallace Dr.	Charleston, SC 29412

(COLUMBIA, SC) .... E. T. (Butch) Bryant, K4NLM, Owner of the new 16/76 machine in Columbia, temporarily operating under the call of WR4ACD/4, is a new CVRA Repeater member from the Southern District. The machine is a Motorola Mocom 70 series, feeding 30 watts through a Phelps-Dodge duplexer and into a Shakespeare 476-1 5.25 db coax colinear antenna. The repeater site is on the Fort Jackson Army Reservation 12 miles west of Columbia. The antenna is located 505' HAAT and 721' above MSL. Control is via telephone and ID is via CW. This is an open, carrier access repeater. Vox access will be added later. Good mobile coverage is provided to the entire center of the state including the counties of Richland, Kershaw, Lexington, Sumter, Darlington, Florence, Williams, Clarendon, Calhoun, Orangeburg, Bamberg, Barnwell, Aiken, Berkley, and Saluda. CVRA Representatives are Butch Bryant, K4NLM, and Grady Wyatt, WB4OCB.

(MYRTLE BEACH, SC) .... WB4PWW et al are still working on their Motorola Sensicon equipment destined for operation on 146.01/146.61. Agreement has been firmed up to allow the antenna to be installed on the stack of the electric power station on US 501 between Conway and Myrtle Beach. This will put the antenna at approximately 300' HAAT. Active amateurs in the area on 2 meters include: WA4GFL, WA4OIP, WA4EPB, WB8UXZ/4, WB4HRR, and K4QMK. Most 2 meter activity here is now on 146.94 simplex..... tnx WA4GFL

(CHARLESTON, SC) .... AF4AFX, 146.16/146.76, came on the air July 8, from its site on the USS Yorktown.

(ORANGEBURG, SC) .... The Orangeburg Amateur Radio Club received its repeater license, WR4AQY on July 12. The machine has been on and off the air as the "bugs" are being worked out of the unit. Poor receiver sensitivity has caused the unit to be returned to the factory. As soon as it comes back, look for activity on 147.69/147.09 from the Orangeburg area. The machine will soon have an autopatch with "*" for access and "#" for disconnect..... tnx K4IPG

EASTERN DISTRICT REPORT

Director:	Charles Durst, WA4WTX	4407 Sunny Court	Durham, NC 27705
Vice Dir:	Danny Hampton, K4ITL	550 Granite St.	Raleigh, NC 27608

(ROCKY MOUNT, NC) .... Mike Wood, WA4UXU, and Joe Warner, K4GWU, have formed the Rocky Mount Repeater Club to support a proposed machine on 147.72/147.12. The repeater will consist of GE Progress Lime equipment and the antenna will be located on a CATV tower at 300' HAAT. Power output will be 60 watts. An autopatch is planned. This group has joined CVRA with WA4UXU and K4GWU serving as the Representatives. Welcome.....

(DURHAM, NC) .... WB4DBB, Herman Cone, continues to work on the multi frequency machine which should be on the air this Fall. The primary machine will be a 6 meter unit on 52.15/53.15, linked to a unit on 222.5/224.1. These will be set up in a split site configuration, linked on 450 mHz. All units will be operated on 12 volts and will have emergency power supplies. tnx WB4DBB.

(FAYETTEVILLE, NC) .... WR4ANN, 31/91, is now equipped with an autopatch serving the Fayetteville exchanges.

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CRYSTALS IN STOCK — FOR ICOM AND REGENCY

A PAT ON THE BACK FOR CVRA REPEATER OWNERS/USERS ..... WA4PEN, President

CVRA Members should be extremely proud of reputations of our repeaters and users. Traveling Amateurs continue to praise the friendliness and helpfulness of operators throughout CVRA territory. Visitors enjoy the use of open repeaters and the friendly "Go ahead breaker," as they seek directions or other information. We all feel proud and happy when we hear the virtues of our machines and operators compared with the closed or private "machines" and their grumpy operators who refuse to respond to a "Break".

So I send my personal thanks to each of you who help portray the CVRA operator as being friendly, helpful and cool.

Of course, periodically, we all have a problem situation arise! One may occasionally be in an area where some unfortunate misunderstanding has occurred — where the air is a bit blue — where someone is "Kerchunking" a repeater — where a net is being interfered with — where music (?) comes in on the access frequency — or where someone just forgot the kind of manners amateurs are supposed to exhibit. If or when this occurs, let me urge you to be cool. A quick flick to another channel can keep you from getting in the middle. In addition, most malcontents soon run out of ugly things to say or do if the audience disappears or at least does not respond. It is sad when someone is on such an ego trip that they must disrupt nets, upset normal repeater operations or otherwise make our hobby less pleasurable than it should be. But, in my opinion, it makes more sense to change channels than to respond and seemingly encourage the offender. It has seemed that in areas of greatest problems that if users can totally disregard the interference by not even keying up the machine, the problem will ultimately disappear. Users are gradually learning that offenders thrive on arguments, angry words, hot tempers and even threats. Generally the purpose of such interference is to stimulate antagonism and without this kind of response, the antagonizer receives no food for his sick ego and finally turns off the rig and wonders why, totally oblivious that he is being laughed at by cool operators.

So keep cool and do whatever has to be done to meet the needs. If an alternate frequency and even Net Control is needed — QSY; if in a local rag chew — switch to simplex or go QRT; whatever the case, cool it! It is a lot better for the ulcers and your reputation among peers.

CVRA, through good fortune and hard work by its members, is tops in the nation. My thanks to you all for making it so. Help us to make it even better.

VIRGINIA CLUB MEETING CALENDAR

LYNCHBURG
  LYNCHBURG ARC 2ND FRI 2000 @ BEULAH BAPT. CHURCH LEESVILLE RD, K4HEX
NEWPORT NEWS
  SPARC 1 & 3RD WED 1930 @ VEPCO BLDG IN HAMPTON, WR4ALW(73)
NORFOLK
  HAMPTON ROADS RADIO ASSN MEETING TIMES ANNOUNCED BY WA4MMP, WR4ACN(79)
RICHMOND
  RICHMOND AMATEUR TELECOMMUNICATIONS SOC (RATS) 1 & 3RD FRI 1930 AT
  THE STONE HOUSE IN FORREST HILL PARK, WR4ACW(88)
VIRGINIA BEACH
  VIRGINIA BCH ARC 1ST TUE 1930 @ PLAZA FIRE STN, WR4AAC(97)
WINCHESTER
  SHENANDOAH VALLEY ARC 1ST/3RD FRI 2000 CLUB BLDG ON GRACE ST WR4AGT(82)

These are Calling Cards from fellow Amateurs in The Carolinas and Virginia. Some represent businesses owned by the amateurs, others are for your information only. You may have your card on display here..... Send your card and $ 6.00 which will cover the cost for 4 continuous issues to Bill Parris, K4GHR, 6210 Gothic Court, Charlotte, NC 28210

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146.22-146.82 52.15-53.15
449.10-444.10 222.34-223.94
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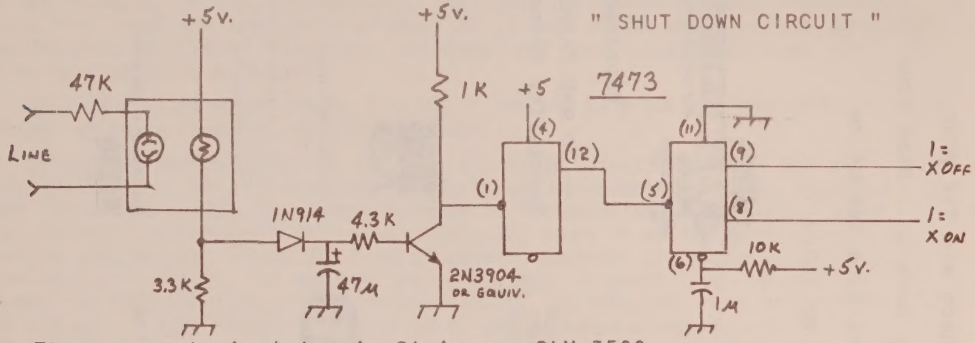
SHUT DOWN CIRCUIT:

This simple "shut down" circuit detects a ring on the phone line and triggers a counter. The counter will, after power is removed, turn on with the transmitter enabled. The only drawback is that a wrong number may turn off your machine every once in a while.... but that's the price for progress.

" SHUT DOWN CIRCUIT "



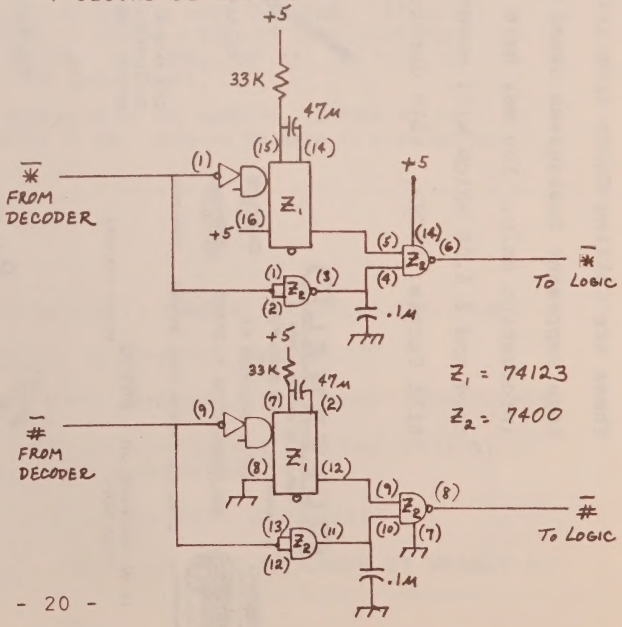
The neon opto-isolator is Clairex - CLM 3500.
Clairex Electronics, 560 S. Third Ave., Mt. Vernon, NY 10550.

ONE SECOND DE BOUNCE:

All repeaters with autopatch need this circuit to prevent voice signals talking up or down the autopatch. This circuit requires the decoder output to be low constantly for one full second before the output can go low. Since the 74123 is retriggerable, any glitching or false voice operation will keep adding one second to the time of the single shot. Only a constant low for one second will cause the output to go low.

" 1 SECOND DE BOUNCE "

NOTE: The two .1µ capacitors are used to compensate for the long propagation delay of the 74123.



* E. E. "Buff" Buffington
W4VGZ/WR4AIF/WR4AKY
2736 Woodbury Dr.
Burlington, NC 27215

FOR YOU MOUNTAIN VACATIONERS WA4DBG

The Kingsport Amateur Radio Club Repeater, WR4AGE, atop Bays Mountain is now operating on 146.37/146.97 with excellent coverage despite desensing problems which should be eliminated by mid August. All visitors to the Kingsport area are welcome on 37/97.

Since summertime is travel time, even with 60¢ gas, and since East Tennessee offers excellent vacationing, here is a run-down of East Tennessee repeaters for any CVRA mountain hoppers.....

146.01	146.61 Knoxville (WR4AIA), Chattanooga (WR4AGQ)
146.04	146.64 None in E. Tenn.
146.07	146.67 LaFollette (WR4AKW)
146.10	146.70 Greenville (WR4AHP)
146.13	146.73 Knoxville (WR4APU)
146.145	146.745 Kingsport (WR4ADO)
146.16	146.76 Knoxville (WR4ADQ)
146.19	146.79 Johnson City (WR4AIP), Chattanooga (WR4ADA)
146.22	146.82 Knoxville (WR4AGJ)
146.25	146.85 Alcoa (WR4APM)
146.28	146.88 Bristol (WR4AFZ), Oak Ridge (WR4AGL)
146.31	146.91 None in E. Tenn.
146.34	146.94 Knoxville (WR4ADF)
146.37	146.97 Kingsport (WR4AGE)
146.40	147.54 Knoxville (WR4AHF)
147.60	147.00 Chattanooga (WR4AFS)

Would you like your club's Newsletter to look as good as this Repeater Journal or the R.A.R.S. Newsletter?

It can ...and you'll be surprised how inexpensive it is!

SEND US A SAMPLE COPY OF YOUR NEWSLETTER TODAY! WE'LL GET YOU A QUOTE BACK RIGHT AWAY WITH SPECS SO THAT YOUR CLUB CAN START NEXT MONTH PUTTING OUT A QUALITY NEWSLETTER. SPECIAL RATES FOR MONTHLY AND QUARTERLY NEWSLETTERS. WE MAIL, TOO.

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"TUNE IN THE WORLD WITH HAM RADIO" is the new ARRL beginner's package which consists of a well prepared manual, a morse code cassette, and a US wall map with call areas designated. It is being billed as containing "everything a beginner needs to know to become a radio amateur - a ham". The package is available from the League and electronics dealers. Each of us should order a copy so when someone asks you about "Ham" radio, just give them your copy. That's not much of an investment. The cassette code tape runs for one hour by the way. Order yours today from: ARRL, 225 Main St., Newington, Conn. 06111.

The following bulletin from ARRL may be of help in clarifying some problems concerning the new rules changes: "Here is clarification of several points raised regarding Docket 20282. Effective July 23 full credit will be given for any exam elements taken by mail when an amateur attempts to upgrade. This means that a current Technician/C need only pass the 13 wpm code test to obtain the General ticket. FCC asks that amateurs currently holding Technici Technician/C or Conditional licenses not to send them to FCC solely for the purpose of modifying them to reflect the non-Conditional status. The present Conditional licenses will automatically carry full Technician or General privileges after July 23. Additionally, the holder of a current Conditional can supervise Novice exams after July 23 provided that he is 21 years or older and unrelated to the applicant."

The following are highlights of the ARRL Board Meeting held at the Denver National Convention July 16-18:

a. An out-going QSL Bureau will be established at ARRL Hq for members of the League and shall be operational no later than Jan 1, 1977.

b. ARRL will petition FCC immediately to add the following additional privileges to the Novice Class license: 50 watts dc input on 145.0-145.5 MHz and 222-225 MHz using A1, A3, and F3 emission.

c. An Ad Hoc Committee will be appointed to examine the need for a National Repeater Frequency Coordination system, to define the proper role of the League in the implementation of such a system, and to make appropriate recommendations to the Board at the 1977 Annual Meeting.

d. Authorized the construction of an addition to ARRL Headquaters offices of 15,000 square feet, at a cost estimated at $800,000.

e. ARRL will petition FCC to lower the amateur radio examiners age to 18.

f. League will explore with the FCC the resolution of desireable rule changes relating to : (1) multiplexed audio and control signals on any of the frequencies employed by a remotely controlled station, and thatthere be no restrictions in the application of such multiplexing; (2) relief of the requirement for tape recording as a form of logging for repeaters under automatic control; (3) the extension of 16F3 operation from 52.5 to 52.0 MHz; (4) altering ERP/HAAT specifications for the 6 meter band, permitting such repeaters to operate at higher dc power input; (5) the recognition of the basic differences between the technical operation of a repeater and the responsibility for compliance with acceptable communication practices on the users rather than the repeater trustee.

g. Accepted the recommendation from the VRAC to designate 52.97, 52.99, 53.01, and 53.03 MHz as direct (simplex) frequencies on the 6 meter band.

h. Editor of QST will publish all of the ARRL Band Plans, including the recommendations relating to tertiary frequency channels in the 146-148 MHz band, at an early date.

i. The Board went on record as supporting the use of 16F3 in segments of the 28, 50, 144, and 220 bands where it is currently permitted, and that 16F3 be expanded down to 52.0 MHz in the 6 meter band. It further endorsed the continued use of 40F3 in the segments of 29.0-29.7 MHz and the amateur voice sub-bands between 52 and 450 MHz for a period of 5 years from the date of the ARRL's filing on Docket 20777, at which time its use on these frequencies be terminated. Also that ATV (A5) not be permitted in all parts of the 420-450 MHz band and, instead, that two nominal 4 MHz bandwidth channels, with a video carrier input frequency of 439.25 and an output frequency of 427.25 MHZ be assigned for ATV repeater use, with these frequencies also being available for simplex use.

j. Headquarters will investigate the feasibility and cost of offering group insurance to radio clubs and repeater groups to provide coverage for liability at meetings, displays, special events, Field Day operations, SET, and related activities.

k. On an experimental basis, ARRL may be authorized by its General Council to reimburse an individual amateur's out of pocket expenses (but not legal fees) for antenna and zoning conflicts up to $5,000. The case must be found to involve a significant miscarriage of justice or harassment, establish a potential legal precedent, and/or result in a severe financial hardship upon the League member to be considered.

CVRA / T-MARC BOUNDARY ESTABLISHED K4PQD

CVRA and T-MARC (The Middle Atlantic Repeater Council) have been operating during the past four years without a clear-cut "boundary" in Northern Virginia. Although no problems have been encountered, a formal boundary has now been established. Tom Gimbert, K4PQD, Northern Assistant Director of CVRA met with the T-MARC Council on June 12, and established the following boundary: "38° Latitude line west to US Route 33, then following US Route 33 to the West Virginia state line. Basically, this splits the counties of Rockingham, Greene, Orange and Spotsylvania, with Caroline and Westmoreland in CVRA and King George in T-MARC. A map showing this line will appear in the CVRA Handbook which will be mailed to all members in late August.

STOLEN EQUIPMENT NEWS..... There have been numerous rigs stolen in the Carolinas and Virginia in the past few months.... especially two meter transceivers. Some of these have been heard on local repeaters being used by non-licensed persons, and some have shown up at Hamfests or local radio shops at "Bargain Prices". To assist in keeping up with these units, a column will begin in "The Repeater Journal" listing the details on the stolen rigs. If your equipment has been "ripped-off", send the details to the Editor so it can be listed.

E N C REPEATER, INC.

P. O. BOX 3364
KINSTON, N. C. 28501

WR4ABP 16/76

by WB4LWX

In an effort to make our ENC Repeater membership even more valuable, the ENC Board at its June meeting voted to provide each member with membership in the CVRA - effective August 1, 1976. Each ENC member will now receive the quarterly issues of "The Repeater Journal". This will add 92 Associate Members to the CVRA role.

On June 10, K4PRJ, WB4WAA, and WB4AHJ replaced our temporary transmit antenna which we've been using for about 18 months with our new custom built Phelps-Dodge Super Stationmaster antenna at 1100' on the Grifton tower. We'll be interested in having comparison reports on the repeater's signal strength throughout the area. Initial indications are that the change is an improvement.

COASTAL AMATEUR RADIO ASSOCIATION P. O. Box 274 Walterboro, SC 29488

WR4AQL 146.31/146.91

by WB4PVL

After a year of waiting, we finally received our license for the CARA White Hall Repeater.

Our ID'er has been programmed for WR4AQL, and continues to cover the South-eastern corner of South Carolina very well. Our mobile coverage extends from Hardeeville to Santee, SC along I-95, which covers the area between the Savannah, Ga., and Florence, SC repeaters very well.

We are presently continuing to operate manned control, which limits us to hours of operation which are the same as the ETV station hours. A remote control system is in the planning stages and will be installed as soon as telephone lines are available at the site.

One of our distant future plans is to provide better coverage in the coastal island areas - Hilton Head to Charleston. Some of these areas are marginal at present to mobiles, due to the pattern deflection from the ETV tower.

Membership has increased from our 13 Charter members to 23 members at present.

Several projects have been completed recently by CARA members including the furnishing of radio communications between vote tabulation points in Beaufort, Colleton, Hampton, Jasper, and Allendale Counties during the recent election, giving each point an up to date precinct by precinct report. CARA, along with members from Charleston and Savannah, furnished communications for the watermelon festival. This included parade control and communications for officials in the Hampton-Varnville area.

Regular repeater activities include code practice at 9 PM on Monday and Wednesday evenings (3 to 20 wpm), and an informal net held weekly at 9 PM on Thursday evening to keep members informed about CARA activities.

********** SPECIAL REPEATER REPORTS **********

ONSLOW AMATEUR RADIO CLUB, INC. Box 841 Jacksonville, NC 28540

WR4AJG 146.40/147.00

by WA4TLI

The Onslow Amateur Radio Club, Inc. now has its membership up to 25 members. The club sponsors WR4AJG repeater through contributions from these members. Current Officers are: President: Ken Allinson, WB4ERZ; Vice President: Bert Carter, WA4TLI; Secretary-Treasurer: Ron Kruk, WA4MMS; Repeater Trustee: Sid Purvis, WA4VBC.

The club meets regularly each second Saturday of the month at 10 AM at Howard Johnson's in Jacksonville.

Our repeater has enjoyed continuous service since initially going "on the air" in September 1975. Recently, a preamplifier was added to the receiver resulting in increased coverage. The coverage area now includes Wilmington, Kinston, and New Bern.

An autopatch will be installed on the repeater in late August. The "*" will bring it up and the "#" will disconnect it. The club members donated the funds for the purchase of the commercially manufactured autopatch equipment.

A new 4 element stacked dipole is scheduled to be installed later this year to improve coverage to the east and south of Jacksonville. Our existing antenna is an 8 element stacked Phelps-Dodge dipole antenna with a HAAT of 260'.

Our repeater is open to all and we invite all Beach vacationers to use our machine.

COASTAL DISTRICT REPORT

Director: Eddie Sellers, W4NTQ 1004 N. Powell Whiteville, NC 28472
Vice Dir:

(LUMBERTON, NC) ..... The Lumber River Radio Relay League has a VHF Engineering repeater built and ready to go as soon as their license arrives. The machine will be located atop the 140' Lumberton Water Tank and will operate on 147.81/147.21. Officers include: President, W4EVN; Vice President: K4NUG; and Repeater Manager: WA4DVN..... tnx W4NTQ

See special reports on the Jacksonville and Grifton Repeaters on this page.

YES YOU CAN BORROW A REPEATER CALL ..... at least John Johnston, K3BNS, Chief of the Amateur and Citizens Division, says so. In a conversation with Vic Clark, W4KFC, John said "no problem". The only proviso is that the fellow who holds the call being lent out must also accept full responsibility for the fact that the repeater will be operated in accordance with regulations, with proper logging, etc. If the "loan" is to extend over more than a two week period, the Engineer of the local FCC district must be notified of the portable operation..... tnx W4ACY & W4KFC

NORTH CAROLINA CLUB MEETING CALENDAR

ASHEVILLE
WESTERN CAROLINA ARC, 1ST THU 2000 BUNCOMBE HEALTH & WELFARE BLDG, 2ND MON 1915 GRACE RESTAURANT ON MERRIMON STREET.

BENSON
JOHNSTON ARS 3RD THU 1930 WR4AOE(27)

BURLINGTON
ALAMANCE ARC 2ND & 4TH MON 1930, 230 E. SUMMIT AVE.

BURLINGTON
ALAMANCE RPTR ASSOC 4TH SAT 1900 B & J CAFETERIA WR4AKY(67)

CARY
CARY ARC 4TH THU 1930 WHITE PLAINS METHODIST CHURCH, WR4AOE(88)

CHARLOTTE
MECKLENBURG ARS LAST TUE 1930 RED CROSS BLDG ON PARK RD W4BFB/WR4AEU(94)

CHARLOTTE
CHARLOTTE RC 1ST THU 1900 CLUB BLDG @ WSOC-TV N TRYON ST W4CQ/WR4ALO(06)

CHARLOTTE
FRIDAY LUNCH GROUP FRI 1200 @ MR STEAK RESTAURANT ON INDEPENDENCE BLVD

DURHAM
DURHAM FM ASSN 2ND TUE 1800 K & W CAFETERIA AT UNIVERSITY MALL IN CHAPEL HILL WR4AGC(82)

FAYETTEVILLE
CAPE FEAR ARS 3RD MON 1900 @ METHODIST COLLEGE, WR4ANN(91)

GREENSBORO
GREENSBORO RC FRI 1930 @ CLUB HOUSE NEAR FRIENDSHIP AIRPORT, W4GG

GREENSBORO
PIEDMONT ARS 3RD FRI 1830 FLAMINGO TOO REST. SUMMIT AVE @ WENDOVER

GREENSBORO
L.I.A.R.S. 2 & 4TH THU 1830 WESTERN SIZZLER STEAK ON WEST MARKET ST.

HIGH POINT
TRIAD ARC 2ND TUE 1930 1200 CHESTNUT DR WR4AFV(79)

JACKSONVILLE
ONSLOW ARC 2ND SAT 1000 HOWARD JOHNSONS RESTAURANT WR4AJG(00)

LAURINBURG
SCOTLAND CO ARS IST WED CABLEVISION OFFICE, WR4AOX(67)

LEXINGTON
HEALING SPRINGS MTN VHF SOC LAST MON 1930 BURLINGTON HOUSE FURNITURE CO PERSONNEL OFFICE W4PAR/WR4ABX(91)

RALEIGH
RALEIGH ARS 1ST WED 1930 CD RM NC STATE ADMIN BLDG W4DW/WR4ACF(64)

SALISBURY
ROWAN ARS 2 & 4TH MON 2000 SALISBURY CITY HALL MAIN ST W4EXU/WR4AAA(73)

SHELBY
SHELBY RADIO CLUB 2ND MON 1830 HUNGARY BULL REST, DUTCH SUPPER

WINSTON-SALEM
FORSYTH ARS 2ND FRI 1930 NAVAL RESERVE TRAINING CENTER

REMEMBER THESE MEETINGS:

CVRA Board of Directors: Sep 4 Sat 7 PM Shelby, NC
Piedmont District Repeater Meeting: Aug 21 Sat 12 noon Greensboro, NC

Written in the diary of King George III of England under the date July 4, 1776:

"NOTHING HAPPENED TODAY."

That's right King George. Nothing happened on July 4, 1776. Only America was born!

VHF NET REGISTER (LOCAL TIMES INDICATED)

TWO METERS (FM)

ANDERSON, SC	37/97	WR4AIO	ANDERSON RADIO CLUB NET	DAILY	2000
ASHEVILLE, NC	16/76	WR4AKR	WESTERN NORTH CAROLINA TFC NET	TUE	2030
BENSON, NC	87/27	WR4AOE	JOHNSTON ARS NET	DAILY	2130
BURLINGTON, NC	07/67	WR4AKY	ALAMANCE COUNTY AREC NET	MWF	2100
CATAWBA CO, NC	146.82		CATAWBA COUNTY RACES NET	MON	1900
CHARLOTTE, NC	34/94	WR4AEU	METROLINA 2 METER EMER. NET	DAILY	2100
FAYETTEVILLE, NC	31/91	WR4ANN	CAPE FEAR ARS NET	DAILY	1900
FLORENCE, SC	37/97	WR4AGM	FLORENCE 2 METER NET	MON	2000
GREENSBORO, NC	72/12	WR4ANP	GUILFORD COUNTY EMERGENCY NET	THU	2100
GRIFTON, NC	16/76	WR4ABP	ENC EMERGENCY NET	SUN	2100
HAMPTON, VA	34/94	WR4AFT	HAMPTON ROADS EMERGENCY NET	WED	2000
LAURINBURG, NC	07/67	WR4AOX	SAND HILLS EMERGENCY NET	DAILY	1930
LYNCHBURG, VA	01/61	WR4ADY	LYNCHBURG TWO METER FM NET	TUE	1900
RALEIGH, NC	04/64	WR4ACF	RARS NET	MTTHF	2000
RICHMOND, VA	28/88	WR4ACW	AMATEUR TRAFFIC & TROUBLE NET	MTWTH	2030
SALISBURY, NC	13/73	WR4AAA	CENTRAL NORTH CAROLINA TFC NET	DAILY	2200
WINCHESTER, VA	22/82	WR4AGT	SHENANDOAH VALLEY SERVICE NET	DAILY	1915
WINSTON-SALEM, NC	04/64	WR4ARD	FORSYTH CO AREC/RACES NET	WED	2100

TWO METERS (SSB/CW/AM)

TIDEWATER SIDEBAND NET (2M)	NORFOLK, VA	145.025	TUE	2100
EAST COAST SIDEBAND NET(2M)		145.025	SUN	1000
MIDWESTERN SSB NET	CINCINNATI, OHIO	145.020	STTH	2100
S.L.O.T. NET	GREENVILLE, SC	145.025	MWF	2215
HAMPTON ROADS EMERGENCY NET(AM)	NORFOLK, VA	145.800	MON	2000

SIX METERS

INTERSTATE NET (SSB)	ATLANTA, GA	50.110	TUE	2100
DIXIE NET (SSB)	CHARLOTTE, NC	50.110	WED	2100
CHARLOTTE HORNET NET (AM)	CHARLOTTE, NC	50.400	SUN	2100
NORTH CAROLINA 6 METER NET(SSB)	GLENDALE SPRINGS, NC	50.120	THU	2100
NORTH CAROLINA 6 METER ASSN.	LEXINGTON, NC	50.120	SUN	0900
TIDEWATER SSB NET	NORFOLK, VA	50.150	TUE	2000
CENTRAL VIRGINIA NET (AM)	RICHMOND, VA	50.250	DAILY	1900

SOUTH CAROLINA CLUB MEETING CALENDAR

ANDERSON
  ANDERSON RC 4TH THU 1930 ANDERSON COUNTY LIBRARY WR4AIO(97)
CHARLESTON
  HOLIDAY VHF SOC 2ND WED 1930 PINEHAVEN SHOPPING CTR MTG RM, WR4AFX(94)
CHARLESTON
  TRIDENT ARC 1930 3RD THUR PARK CIRCLE PRESB. CHURCH
COLUMBIA
  CAROLINA RPTR SOC 1ST MON 1930 PROVIDENCE PRES. CHURCH, WR4ACD(94)
FLORENCE
  FLORENCE FM RPTR ASSN 3RD MON 1930 FLORENCE-DARLINGTON TECH CTR
GREER
  GREER ARC 1ST MON 1930 MTG LOCATION ANNOUNCED MONTHLY, WR4ABG(94)
KEEOWEE
  KEEOWEE-TOXAWAY ARC, 3RD TUE @ KEE[illegible]XAWAY VISITORS CENTER
ORANGEBURG
  ORANGEBURG ARC 1ST THU 1930 @ TENNELEC ON HWY 301 NORTH, WR4___(09)
SUMTER
  SUMTER RPTR ASSN 3RD MON 2000 CITY/COUNTY OFFICE BLDG CONF RM WR4AOI(70)

ADDRESS CORRECTION REQUESTED

CAROLINAS - VIRGINIA REPEATER ASSN.
Post Office Box 3325
Burlington, North Carolina 27215

BULK RATE
U. S. POSTAGE
PAID
BURLINGTON, N. C. 27215
PERMIT NO, 271

****

APPLICATION FOR ASSOCIATE MEMBERSHIP
CAROLINAS-VIRGINIA REPEATER ASSOCIATION

NAME: _____ CALL: _____ DATE: _____

ADDRESS: _____ PHONE: _____

CITY: _____ STATE: _____ ZIP: _____

MEMBER OF ARRL? _____ MY HOME REPEATER IS: _____

Mail to:

Enclosed is: _____ $ 2.00/one year Carolinas-Virginia Repeater Assn.
Lindsay Cleveland, W4IZI
_____ $ 4.00/two years P. O. Box 3325
Burlington, NC 27215

****